U.S./Canada Pacific Salmon Treaty Implementation

Skagit System Cooperative staff conduct a beach seine as part of a Pacific Salmon Treaty project to restore chinook salmon.

Introduction

Adult salmon returning to many western Washington streams migrate through both U.S. and Canadian waters, and are harvested by fishermen from both countries. For decades, there were no restrictions on the interception of returning salmon by fishermen of the neighboring countries. Conservation goals and the right of each country to reap the benefits of its own fisheries enhancement efforts went unfulfilled.

After two decades of talks the 1985 Pacific Salmon Treaty (PST) was created through the cooperative efforts of the tribes, state governments, U.S. and Canadian governments, and sport and commercial fishing interests.

The Pacific Salmon Commission (PSC) was created by the two countries to implement the treaty. The PSC establishes fishery and allocation regimes, develops management recommendations and serves as a forum for the countries to reach agreement on mutual fisheries issues.

The PSC is an eight-member bilateral body that includes representatives of federal, state and tribal governments. Three regional panels comprised of fisheries representatives and experts provide technical and regulatory advice to the PSC.

As co-managers of the fishery resources, tribal implementation of the PST is critical to achieve the shared goals of the PST in protecting, sharing and restoring the salmon resource. In addition to serving at the policy level on the PSC and its panels, tribal representatives also participate on the many committees and work groups which provide technical support to implement the treaty.

Policy and Process

Successful implementation of the PST requires the tribes to develop, whenever possible, a unified position on issues addressed by the PSC. The treaty provides for tribal policy representation at all levels of the PSC structure, and the tribes fully utilize this opportunity, as demonstrated by the participation of their representatives in this process. Another essential aspect of the tribes' role in the treaty's implementation is to ensure that key tribal and Northwest Indian Fisheries Commission (NWIFC) staff are involved in the complete operation of the PSC.

NWIFC staff facilitate inter-tribal and inter-agency meetings, develop issue papers and analysis of strategies and negotiation options, and provide technical advice to the tribes and tribal PSC representatives. An extensive amount of time is devoted to ensure the tribes and their policy representatives are informed on the issues affected by the PST implementation process.

An NWIFC policy analyst coordinates tribal participation in the PST process, preparing briefing reports on key issues and meetings to keep concerned tribes informed. Announcements of all meetings are mailed to the tribes, along with an explanation of all issues affecting tribal fisheries in the PST process. Also included are an explanation of the scope of the meetings, background information required, and a list of decisions to be made. The results of these meetings and the decisions are summarized and provided to the tribes and tribal representatives.

Lack of a successfully-negotiated Pacific Salmon Treaty in FY-97 resulted in angry political rhetoric, claims of U.S. overfishing and a harmful "Canada First" fishing policy. As in past years when agreement was not reached under the treaty, tribal and non-Indian fisheries were managed responsibly. Indian and non-Indian harvests were

taken from a portion of the run surplus to the escapement needs (the number of fish needed to spawn and perpetuate the run) of the stock.

A bright spot in resolving the impasse has appeared in the appointment by both countries of two high-level representatives to make a fresh attempt at settling the salmon dispute. William Ruckelshaus, who served two terms as administrator of the U.S. Environmental Protection Agency, and University of British Columbia President and Chancellor David Strangway will attempt to reinvigorate a stakeholders process to resolve differences in the interpretation and implementation of the Pacific Salmon Treaty.

Technical Implementation

In 1997, NWIFC employees continued as chairs of the U.S. sections of the Fraser River Sockeye and Pink, Chum and Chinook technical committees. Staff also served on other committees, including the Research and Statistical Committee, the Data Sharing Committee, and the Selective Fishery Evaluation Committee. Working groups for data standards, mark/recovery statistics, and chum genetic stock identification also included NWIFC staff participation.

Research Projects and Data Gathering

Fisheries research is an integral part of the implementation of the PST. The tribes have designated a substantial portion of their PST funding to conduct the necessary research, data collection and fishery monitoring activities needed to manage salmon fisheries in the context of the PST.

Beginning in FY-90, the scope of the tribal projects was expanded to include enhancement studies. They are designed to explore the feasibility of programs intended to improve the status of stocks and fisheries. These projects involve activities such as production feasibility studies, production evaluation studies, stock enhancement programs, and habitat improvement.

The NWIFC coordinates the tribal research and data gathering activities associated with PST implementation. Since FY 1987, tribal project proposals have been solicited and subjected to a technical review and prioritization process. This serves two primary purposes. First, because there are insufficient funds to conduct all desired studies, the tribes need an objective measure of the technical merits of the proposals. Second, the process results in better developed projects that are relevant to the PST. A group of tribal and NWIFC technical staff review the annual proposals and conduct an evaluation/ranking session.

Proposals are anonymously ranked under a numerical rating system based on a standardized set of questions. These questions address the relevance of the project to the PST, the analytical design and performance standards of the proposal, the benefit and relationship to other fisheries management activities, and the appropriateness of the project's cost. Results of the ranking are presented to the NWIFC Commissioners for funding decisions. NWIFC staff provide administrative services for the research projects and coordinate information between projects. Staff also supply consulting services on statistical and other technical issues upon request.

Sixteen projects were conducted in FY 1997. These projects can be divided into three categories: Indicator stock tagging studies, stock composition studies, and enhancement evaluation studies. Following is a listing of the projects, the tribe or tribal organization in charge of the project, and a brief description of each project. Separate technical reports are also produced for each project.

Indicator Stock Tagging and Recovery Studies:

Hatchery Indicator Stock Tagging and Recovery Program (NWIFC)

This longstanding, coastwide PST chinook and coho exploitation indicator stock program evaluates the effectiveness of management measures prescribed by the PSC. The intent of the program is to ensure that each wild or hatchery production stock grouping has a representative hatchery stock that is being coded wire tagged (CWT).

Juveniles from each indicator stock are tagged each year, and subsequent recoveries in fisheries allow the PSC Chinook and Coho technical committees to infer fishery harvest rates, brood exploitation rates, stock harvest rates, and other statistical analysis. Each year, more than 1.5 million fish from 11 tribal hatcheries are tagged for the program.

Four of the chinook tag groups are derived from wild brood-stocking efforts. All of the wild brood stock projects include spawning ground surveys to estimate escapement and sample carcasses to recover CWTs. These four projects are described below.

Skagit River Summer Chinook Indicator Stock Study (Skagit System Cooperative)

This project's objective is to establish and monitor a wild Skagit River chinook CWT indicator stock. This is done by capturing and spawning wild brood stock and subsequently rearing, tagging, and releasing a sufficient number of smolts to assess and monitor harvest rates and catch levels associated with this stock. This project is being conducted jointly with the Washington Department of Fish and Wildlife (WDFW).

Stillaguamish River Native Chinook Indicator Stock Study (Stillaguamish Tribe)

The primary purpose of this study is to provide estimates of exploitation rates that can be used to evaluate the effect of rebuilding on the depressed natural stock of summer/fall chinook from the Stillaguamish River. This indicator stock is maintained by annually capturing and spawning wild brood stock, and subsequently rearing, coded wire tagging, and releasing the progeny.

Hoko River Fall Chinook Indicator Stock Study (Makah Tribe)

This indicator stock provides estimates of exploitation rates that can be used to evaluate the effect of the rebuilding program on natural stocks of fall chinook originating from tributaries to the Strait of Juan de Fuca. Study activities include systematic redd counts for spawning escapement estimation, and carcass sampling for CWT recovery.

Queets River Wild Fall Chinook Indicator Stock Study (Quinault Indian Nation)

The main goal of this indicator stock study is to provide exploitation rate estimates that can be used to evaluate the effect of the rebuilding program on natural fall chinook stocks from the north coast of Washington (Quillayute, Hoh and Queets rivers). The stock is maintained by annually capturing and spawning wild brood stock, and subsequently rearing, coded wire tagging, and releasing the progeny.

Queets River Coho Indicator Stock Study (Quinault Indian Nation)

The purpose of this project is to establish and assess an indicator stock of naturally-produced coho salmon from the Queets River system. Specific objectives include the annual capture and coded wire tagging of 35,000 wild coho smolts, the estimation of smolt production, and conducting spawning ground surveys for tag recovery and escapement estimation.

Stock Composition Studies:

Snohomish River Chinook Straying Evaluation Study (Tulalip Tribes)

This study is designed to determine the level of straying of hatchery-origin chinook salmon through the use of unique otolith marks. The marks are applied through controlled temperature fluctuations during the incubation stage at the Tulalip Hatchery. Spawning ground surveys are subsequently conducted to recover marks and determine marked/unmarked ratios. The research allows biologists to assess the accuracy of natural spawning escapement estimates used to monitor the rebuilding of Snohomish River summer/fall native chinook.

Estimation of Chum Salmon Stock Composition in South Puget Sound, Hood Canal and Skagit Commercial Fisheries (Puget Sound Tribes/ NWIFC)

The study is designed to provide stock composition estimates for Puget Sound chum stocks in four major Puget Sound mixed-stock fisheries. Chum tissue samples are collected from fishery landings and analyzed through electrophoresis. The information will be used for assessing the timing and contribution of natural chum stocks in fisheries directed at hatchery chum salmon and improving assessment of management effectiveness in achieving the desired harvest rates for all stocks.

Strait of Juan de Fuca Chum Genetic Stock Identification Study (Makah Tribe)

Information from this study provides Puget Sound fishery managers with an improved technical basis for assessing chum fishery stock composition, stock abundance, and annual variation in migration timing. The specific objectives of this project are to collect 200 sets of tissue samples weekly from chum caught in Area 5

fisheries. Stock estimates are derived through electrophoretic analysis of the samples.

Enhancement Evaluation Studies:

White River Spring Chinook Migratory Behavior Investigation (Puyallup Tribe)

In this study, radio tags and telemetry equipment are used to monitor the upstream migration of adult spring chinook salmon. The specific objectives of this effort are to determine the overall upstream migration timing for spring chinook, the location of preferred spawning areas throughout the basin, and determine behavioral differences, if any, between hatchery and wild fish.

Stillaguamish Salmonid Barrier Evaluation and Elimination Project (Stillaguamish Tribe and Tulalip Tribes)

This is the final year of a three-year project designed to increase the production of native coho salmon in the Stillaguamish River system. This is being accomplished by identifying and removing fish migration barriers that limit or restrict the use of existing and potentially productive fish habitat. Based on the results of this field data, project biologists are developing a Fish Barrier Analysis and Elimination Program.

Evaluation of Natural Stock Improvement Measures for Hood Canal Coho (Point No Point Treaty Council)

The goal of this project is to provide a technically-sound basis for planning and evaluating alternative measures to improve the performance of natural coho salmon populations in Hood Canal. Project work products will aid managers in updating management approaches and to develop strategies for maintaining or improving the production and long-term sustainability of natural coho in Hood Canal.

Skagit River Chinook Restoration (Skagit System Cooperative)

The goal of this project is to develop the analytical tools needed to evaluate actions to restore Skagit River chinook. Specific objectives include identifying different juvenile life history patterns of Skagit chinook, and the habitat types they occupy, and calculating the respective percentages of the juvenile and adult populations represented by each life history pattern.

Evaluation of Natural Production of Wild Coho in the Queets River (Quinault Indian Nation)

The purpose of this project is to describe coho stock performance based on habitat condition and coho freshwater life history, productivity, and production. Specific objectives include analyses of habitat and coho salmon production data from over ten years of studies in the Queets River basin and providing data, assessments, and interpretations to help direct wild stock enhancement efforts.

Wild Coho Smolt Supplementation in the Queets River (Quinault Indian Nation)

The objective of this project is to supplement wild coho salmon production through off-station smolt plants in the Queets River basin. The primary purpose of this project will be to provide adult coho for harvest and natural spawning escapement while maintaining the long-term fitness of the stock.

Hoko River Chinook Supplementation Study (Makah Tribe)

The purpose of this project is to enhance chinook spawning utilization in high quality habitat in the upper mainstem of the Hoko River and in the Little Hoko River. A total of 200,000 fry will be imprinted and released at two sites. The fry released at each site will be differentially otolith-marked to enable their identification as adults.

For More Information

For more information about the natural resource management activities of the treaty Indian tribes in western Washington, contact the Northwest Indian Fisheries Commission, 6730 Martin Way E., Olympia, WA 98516; or call (360) 438-1180. The NWIFC home page is available on the World Wide Web at http://mako.nwifc.wa.gov.